



US EPA RECORDS CENTER REGION 5



514006

**GCA CORPORATION  
Technology Division**

213 Burlington Road  
Bedford, Massachusetts 01730  
Telephone: 617-275-5444  
Telex: 92-3339

Subject: Request for Quotation No. 1-619-078-222-001

Gentlemen:

You are invited to submit to GCA/Technology Division a bid to perform drilling services at the Reilly Tar site located in St. Louis Park, Minnesota.

The approximate period of performance for completion of the work specified in the enclosed Statement of Work (Exhibit A) is three (3) months. It is anticipated that a firm fixed price subcontract will result from this solicitation; however, GCA reserves the right to award another type of subcontract.

Your price or cost shall be submitted for each reference case specified in accordance with the enclosed "General Instructions for Preparation of Bids."

Your bid and qualification statement shall be submitted in an original and two (2) copies in order to reach the following address on or before 5:00 p.m., local time, August 1982:

GCA/Technology Division  
213 Burlington Road  
Bedford, MA 01730  
Attention: Ms. M.L. Atkinson, Subcontract Administrator

To facilitate handling, please mark on the outside of the envelope containing your bid: "Request for Quotation No. 1-619-078-222-001." Hand carried bids shall be delivered to the above address on or before the time and date specified above.

Your bid shall be signed by an official authorized to bind the offeror and should contain a statement to the effect that the proposal is firm for a period of not less than sixty (60) days after the closing date.

Information will be disclosed to offerors in accordance with regulations applicable to negotiated procurements and written notice will be given to unsuccessful offerors.

LATE BIDS, MODIFICATIONS OF BIDS  
OR  
WITHDRAWALS OF BIDS

- a. Any bid received at the office designated in the solicitation after the exact time specified for receipt will not be considered unless it is received before award is made, and:
  1. It was sent by registered or certified mail not later than the fifth calendar day prior to the date specified for receipt of offers (e.g., an offer submitted in response to a solicitation requiring receipt of offers by the 20th of the month must have been mailed by the 15th or earlier);
  2. It was sent by mail (or telephone if authorized) and it is determined by GCA that the late receipt was due solely to mishandling after receipt at GCA's main office.
  3. It is the only bid received.
- b. Any modification or withdrawal of a bid is subject to the same conditions as in (a)(1) and (a)(2) of this provision.
- c. The only acceptable evidence to establish:
  1. The date of mailing of a late bid, modification, or withdrawal sent either by registered or certified mail is the U.S. Postal Service postmark on the wrapper or on the original receipt from the U.S. Postal Service. If neither postmark shows a legible date, the bid, modification, or withdrawal shall be deemed to have been mailed late (the term "postmark" means a printed, stamped, or otherwise placed impression that is readily identifiable without further action as having been supplied and affixed on the date of mailing by employees of the U.S. Postal Service).
  2. The time of receipt at GCA's main office is the time-date stamp of such installation on the proposal wrapper or other documentary evidence of receipt maintained by the installation.
- d. Notwithstanding (a) and (b) of this provision, a late modification of an otherwise successful bid which makes its terms more favorable to GCA, will be considered at any time it is received and may be accepted.
- e. Bids may be withdrawn by written or telegraphic notice received at any time prior to award. Bids may be withdrawn in person by an offeror or his authorized representative, provided his identity is made known and he signs a receipt for the proposal prior to award.

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GCA may award a contract, based on initial offers received, without discussion of such offers. Accordingly, each initial offer should be submitted in the most favorable terms and from a price and technical standpoint which the offeror can submit.

Any contract(s) resulting from this solicitation will be awarded to that qualified responsible offeror whose offer, conforming to the solicitation, will be most advantageous to GCA from a price standpoint.

All inquiries concerning this Request for Quotation should be referred as directed to the address provided in this solicitation for submission of proposals, or by telephone to (617) 275-5444.

Very truly yours,

Arthur Engelman  
Manager, Contract Administration

Enclosures

AE:jaf

GCA/TECHNOLOGY DIVISION  
A DIVISION OF GCA CORPORATION  
Bedford, Massachusetts 01730

August 1982

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(RFQ No. 1-619-078-222-001)

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SPECIAL INSTRUCTIONS  
(RFQ No. 1-619-078-222-001)

1. Basis for Award. Award will be made to the responsible bidder submitting the lowest total prices for the specified reference cases in Exhibits C and D and providing an acceptable qualification statement as required in Exhibit A.
2. Submission of Bids. Bids shall be submitted in the original and (2) copies. The response package shall consist of a detailed cost for each reference case (Exhibits C and D) utilizing the Bid Price Sheets provided, the bidder's qualification statement, and Representations, Certifications and Acknowledgments.
3. Questions. All comments and questions must be in writing and received by the GCA Subcontract Administrator not later than close of business (5:00 p.m.) August 1982. Telegraphic, Telex, and DEX messages are acceptable. Written responses to all questions will be provided to all bidders. [DEX transmissions may be arranged by calling (617) 275-5444, ext. 4160.]
4. Schedule. Bidders should assume drilling will be performed on a continuous basis for a maximum of seven (7) weeks.
5. Shipment. Bidders should assume that samples collected will be shipped every two (2) weeks such that they are received at GCA during regular business hours (i.e., Monday-Friday, 8:30 a.m.-5:00 p.m.). All shipments will be F.O.B. destination with shipping and transportation costs prepaid.
6. Payment. The successful subcontractor may invoice monthly.
7. Confidentiality of Information. Bidders are advised that no data or other information relating to the statement of work, either provided by the Prime Contractor or generated under any resulting subcontract, shall be released or otherwise disclosed to any person or organization other than the Prime Contractor without prior written authorization. Formal or informal meetings, presentations, or discussions relating to the subject data or other statistical information may not be conducted with any person or organization without the prior written approval of the Prime Contractor.
8. Court Testimony. Because the results of the program may be used in support of enforcement or other court actions by the Government, subcontract personnel may be required to present testimony or affidavits concerning well drilling and sample collection activities. The subcontractor may also be required to compile documentation of its activities in this regard. The costs for this effort are not to be included in the bid, but will be handled separately, if the occasion arises. Should the need arise, the bidder hereby agrees to make its personnel available for such purposes and to provide documentation as necessary.

GCA/TECHNOLOGY DIVISION  
A DIVISION OF GCA CORPORATION  
Bedford, Massachusetts 01730

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SPECIAL INSTRUCTIONS

10. Bidders are advised that rigorous chain-of-custody requirements will be imposed on all aspects of the work resulting from this RFQ.
11. Bidders are requested to review the cost proposal instructions carefully in order that they understand and fully respond to the requirements of the RFQ.

GCA/TECHNOLOGY DIVISION  
A DIVISION OF GCA CORPORATION  
Bedford, Massachusetts 01730

August 1982

GENERAL INSTRUCTIONS FOR PREPARATION OF BIDS  
(RFO No. 1-619-078-222-001)

The bidder's technical capability will be determined by his qualification statement as required in Exhibit A. Price will be a determining factor in the choice of the successful qualified bidder.

1. Exhibits C and D describe reference cases representing the anticipated minimum and maximum scope of work, respectively, anticipated to be required in any resultant subcontract. The bidder shall prepare separate itemized bids for each reference case utilizing the provided Bid Price Sheets in accordance with the specifications in Exhibits C and D. The reference cases have been standardized such that bids may be compared on a relatively equal basis. It is understood that actual drilling performance may require adjustments to the subcontract price. For this reason, it is requested that ancillary unit prices be provided on the Bid Price Sheet as the basis for such adjustments. It should be noted further that the specific scope of work included in the eventuating subcontract will probably differ from Exhibits C and D.
2. Any second tier subcontracting proposed by the bidder should be described in full and the tier subcontractor name and address provided.
3. It should be assumed that the bidder will provide all required protective clothing and safety devices for his crew in accordance with the requirements of the Health and Safety Plan (Appendix A to Exhibit A).
4. Bidders should include in their bids the costs for sample containers, packing and packing material (dry ice, labels, etc.), lockable coolers, and shipping. It should be assumed that samples will be shipped in lots every two (2) weeks F.O.B. destination, transportation and shipping prepaid.

REPRESENTATIONS, CERTIFICATIONS AND ACKNOWLEDGEMENTS

REPRESENTATIONS (Check or complete all applicable boxes or blocks.)

The bidder represents as part of his bid that:

1. SMALL BUSINESS (See par. 14 on SF33-A.)

He ( ) is, ( ) is not, a small business concern. If bidder is a small business concern and is not the manufacturer of the supplies offered, he also represents that all supplies to be furnished hereunder ( ) will, ( ) will not, be manufactured or produced by a small business concern in the United States, its possessions, or Puerto Rico.

2. MINORITY BUSINESS ENTERPRISE

He ( ) is, ( ) is not, a minority business enterprise. A minority business enterprise is defined as a "business, at least 50 percent of which is owned by minority group members or, in case of publicly owned businesses, at least 51 percent of the stock of which is owned by minority group members." For the purpose of this definition, minority group members are Negroes, Spanish-speaking American persons, American-Orientals, American-Indians, American Eskimos, and American-Aleuts.

3. REGULAR DEALER-MANUFACTURER (Applicable only to supply contracts exceeding \$10,000.)

He is a ( ) regular dealer in, ( ) manufacturer of, the supplies offered.

4. CONTINGENT FEE (See par. 15 on SF33-A.)

(a) He ( ) has, ( ) has not, employed or retained any company or persons (other than a full-time bona fide employee working solely for the bidder) to solicit or secure this contract, and (b) he ( ) has, ( ) has not, paid or agreed to pay any company or person (other than a full-time bona fide employee working solely for the bidder) any fee, commission, percentage, or brokerage fee contingent upon or resulting from the award of this contract; and agrees to furnish information relating to (a) and (b) above, as requested by the Contracting officer. (Interpretation of the representation, including the term "bona fide employee," see Code of Federal Regulations, Title 41, Subpart 1-1.5.)



5. TYPE OF BUSINESS ORGANIZATION

He operates as ( ) an individual, ( ) a partnership, ( ) a nonprofit organization, ( ) a corporation, incorporated under the laws of the State of \_\_\_\_\_.

6. AFFILIATION AND IDENTIFYING DATA (Applicable only to advertised solicitations.)

(a) He ( ) is, ( ) is not, owned or controlled by a parent company: (See par. 16 on SF 33-A.)

(b) If the offeror is owned or controlled by a parent company, he shall enter in the blocks below the name and main office address of the parent company:

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Name of Parent Company  
and Main Office Address  
(Include zip code)

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(c) Employers Identification Number (see par. 17 on SF33-A)

Offeror's E.I. No.:

Parent Company E.I. No.:

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7. EQUAL OPPORTUNITY

(a) He ( ) has, ( ) has not, participated in a previous contract or subcontract subject either to the Equal Opportunity clause herein or the clause originally contained in section 301 of Executive Order No. 10925, or the clause contained in section 201 of Executive Order No. 11114; that he ( ) has, ( ) has not, filed all required compliance reports; and that representations indicating submission of required compliance reports, signed by proposed subcontractors, will be obtained prior to subcontract awards. (The above representations need not be submitted in connection with contracts or subcontracts which are exempt from the equal opportunity clause.)

(b) The bidder represents that (1) he ( ) has developed and has on file, ( ) has not developed and does not have on file, at each establishment affirmative action programs as required by the rules and regulations of the Secretary of Labor (41 CFR 60-1 and 60-2), or (2) he ( ) has not previously had contracts subject to

the written affirmative action programs requirement of the rules and regulations of the Secretary of Labor. (The above representations shall be completed by each bidder whose bid is \$50,000 or more and who has 50 or more employees.)

#### 8. ORGANIZATIONAL CONFLICTS OF INTEREST REPRESENTATION

a. The offeror represents, to the best of his knowledge and belief, that:

The award to him of a contract or the modification of an existing contract does ( ) or does not ( ) involve an organizational conflict of interest as defined in paragraph b. of this representation.

b. The term "organizational conflict of interest" means that a relationship exists whereby a bidder or a contractor (including his chief executives, directors, proposed consultants or subcontractors) has interests which (1) may diminish his capacity to give impartial, technically sound, objective assistance and advice or may otherwise result in a biased work product or, (2) may result in an unfair competitive advantage. Such interests include, but are not limited to, present or proposed contractual arrangements with an industry to be studied, present or proposed contractual arrangements with a firm which manufactures or sells any item or substance to be studied, present or proposed manufacture or sale of any item or substance to be studied, and present or proposed manufacture or sale of any item or substance in competition with an item or substance to be studied under the proposed contract with EPA. It is not relevant that the offeror has either the reputation of being able to resist the temptation to give biased advice or the ability to resist such temptation.

c. If this representation, as completed by the offeror, or other information available to the Contracting Officer, indicates the existence of an organizational conflict of interest, the Contracting Officer will determine whether a conflict does exist. If the Contracting Officer determines that a conflict exists, the offeror will not receive an award unless the conflict can be adequately avoided, eliminated, or neutralized through the inclusion of a special clause in the contract.

d. If this solicitation involves a formally advertised contract and the representation of the otherwise successful offeror indicates a conflict of interest, the Contracting Officer will discuss the matter with the offeror and will determine whether it is reasonable to expect that the conflict can be adequately

avoided, eliminated or neutralized by the offeror. If the determination is negative, he will find that the offeror is not responsible. If the determination is affirmative, he will enter into an agreement with the contractor which adequately avoids, eliminates or neutralizes the conflict and subsequently award the contract.

9. PERCENT OF FOREIGN CONTENT

The bidder/contractor shall represent (as an estimate), immediately after the award of a contract, the percent of the foreign content of the item or service being procured expressed as a percent of the contract award price (accuracy within plus or minus 5 percent is acceptable).

10. WOMAN-OWNED BUSINESS

Concern is ( ) is not ( ) a woman-owned business.

A woman-owned business is a business which is, at least, 51 percent owned, controlled, and operated by a woman or women. Controlled is defined as exercising the power to make policy decisions. Operated is defined as actively involved in the day-to-day management.

For the purposes of this definition, businesses which are publicly owned, joint stock associations, and business trusts are exempted. Exempted businesses may voluntarily represent that they are, or are not, woman-owned if this information is available.

11. PLACE OF PERFORMANCE AND MAIN OFFICE

Following is the name and location of the main office and of the plant or place of business where the item(s) will be produced or supplied from stock or where the services will be performed.

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Place of Performance (City, County, and State) (Cong. Dist. No.)

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Main Office (City, County, and State) (Cong. Dist. No.)

12. LABOR SURPLUS AREA REPRESENTATION

The offeror represents that a substantial portion of the work to be performed under the contract ( ) will, ( ) will not be performed in a labor surplus area. If a substantial portion of the work will not be performed in a labor surplus area, the offeror ( ) has, ( ) has not been certified by the Department of Labor.

**13. CONTRACTOR ESTABLISHMENT CODE**

If available, enter your nine digit Dun and Bradstreet, Inc., D-U-N-S identification number here \_\_\_\_\_. If a D-U-N-S number has not been established, the offeror is hereby advised that the Government may obtain a D-U-N-S number for reporting contractor identification and award data for this procurement in the Federal Procurement Data System. Such data will be made available to any party upon request.

ACKNOWLEDGMENT OF AMENDMENTS	AMENDMENT NO.	DATE	AMENDMENT NO.	DATE
The bidder acknowledges receipt of amendments to the Solicitation for bids and related documents numbered and dated as follows:				

**CERTIFICATIONS** (Check or complete all applicable boxes or blocks)

**1. BUY AMERICAN CERTIFICATE**

The bidder certifies as part of his bid, that: each end product, except the end products listed below, is a domestic end product (as defined in the clause entitled "Buy American Act"); and that components of unknown origin have been considered to have been mined, produced, or manufactured outside the United States.

EXCLUDED END PRODUCTS	COUNTRY OF ORIGIN

**2. CLEAN AIR AND WATER** (Applicable if the bid exceeds \$100,000 or the Contracting Officer has determined that orders under an indefinite quantity contract in any year will exceed \$100,000, or a facility to be used has been the subject of a conviction under the Clean Air Act (42 U.S.C. 1857c-8(c)(1)), or the Federal Water Pollution Control Act (33 U.S.C. 1319(c)) and is listed by EPA, or is not otherwise exempt.)

The bidder certifies as follows:

(a) Any facility to be utilized in the performance of this proposed contract ( ) has, ( ) has not, been listed on the Environmental Protection Agency List of Violating Facilities.

(b) He will promptly notify the Contracting Officer, prior to award, of the receipt of any communication from the Director, Office of Federal Activities, Environmental Protection Agency, indicating that any facility which he proposes to use for the performance of the contract is under consideration to be listed on the EPA List of Violating Facilities.

(c) He will include substantially this certification, including this paragraph (c), in every nonexempt subcontract.

3. CERTIFICATION OF INDEPENDENT PRICE DETERMINATION (See par. 18 on SF33-A.)

(a) By submission of this bid, the bidder certifies, and in the case of a joint offer, each party thereto certifies as to its own organization, that in connection with this procurement:

(1) The prices in this offer have been arrived at independently, without consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor;

(2) Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening in the case of an advertised procurement or prior to award in the case of a negotiated procurement, directly or indirectly to any other bidder or to any competitor; and

(3) No attempt has been made or will be made by the bidder to induce any other person or firm to submit or not to submit a bid for that purpose of restricting competition.

(b) Each person signing this bid certifies that:

(1) He is the person in the bidder's organization responsible within that organization for the decision as to the prices being bid herein and that he has not participated, and will not participate, in any action contrary to (a)(1) through (a)(3), above; or

(2)(i) He is not the person in the bidder's organization responsible within that organization for the decision as to the prices being offered herein but that he has been authorized in writing to act as agent for the persons responsible for such decision in certifying that such persons have not participated and will not participate, in any action contrary to (a)(1) through (a)(3) above, and as their agent does hereby so certify; and (ii) he has not participated, and will not participate in any action contrary to (a)(1) through (a)(3) above.

4. CERTIFICATION OF NONSEGREGATED FACILITIES (Applicable to (1) contracts, (2) subcontracts, and (3) agreements with applicants who are themselves performing federally assisted construction contracts, exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity clause.)

By the submission of this bid, the bidder, offeror, applicant, or subcontractor certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location under his control, where segregated facilities are maintained. He certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The bidder, offeror, applicant, or subcontractor agrees that a breach of this certification is a violation of the Equal Opportunity clause in this contract. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, color, religion or national origin, because of habit, local custom, or otherwise. He further agrees that (except where he has obtained identical certifications from proposed subcontractors for specific time periods) he will obtain identical

certifications from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity clause that he will retain such certifications in his files; and that he will forward the following notice to such proposed subcontractors (except where the proposed subcontractors have submitted identical certifications for specific time periods.)

**Notice to prospective subcontractors of requirement for  
certifications of nonsegregated facilities**

A Certification of Nonsegregated Facilities must be submitted prior to the award of a subcontract exceeding \$10,000 which is not exempt from the provisions of the Equal Opportunity clause. The certification may be submitted either for each subcontract or for all subcontracts during a period (i.e., quarterly, semiannually, or annually). NOTE: The penalty for making false bids is prescribed in 18 U.S.C. 1001.

**5. CERTIFICATION REGARDING PREVIOUS CRIMES, DEBARMENTS,  
SUSPENSIONS, AND DEFAULTS**

(a) The offeror or bidder certifies that, within 3 years prior to the date of this solicitation, the offeror or bidder and/or any of its officers and principal employees:

(1) Have ( ) have not ( ) been indicted, otherwise charged, or convicted of:

a. A criminal offense incident to obtaining or attempting to obtain a public (Federal, State or municipal) or private contract or subcontract thereunder, or in the performance of such contract or subcontract;

b. A violation of the Organized Crime Control Act of 1970;

c. A violation of the Federal Antitrust statutes arising out of the submission of bids or proposals; or

d. Embezzlement, theft, forgery, bribery, falsification or destruction of records, fraud, tax fraud, receiving stolen property, or equivalent crimes which are indicative of a lack of business integrity.

(2) Have ( ) have not ( ) been debarred or suspended from the award of public contracts. If the response is in the affirmative, indicate the agency(s) which initiated the debarment or suspension action:

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(3) Have ( ) have not ( ) had a public contract terminated for default.

(b) For the purpose of this certification, a principal employee is defined as that person(s) acting in a managerial or supervisory capacity who will be responsible for administering the offeror's or bidder's performance of the contract to be awarded under this solicitation (e.g.: project manager, plant manager).

(c) The knowledge of the person who executes this certification is not required to exceed the "knowledge" which that person reasonably can be expected to possess.

(d) An affirmative certification of any of the above may not necessarily result in an offeror's or bidder's ineligibility to receive an award under this solicitation. However, an affirmative certification will be considered in connection with the determination of an offeror's or bidder's responsibility. Offerors or bidders who refuse to furnish the certification and provide such additional information as may be requested by the contracting officer may be found non-responsible.

Name of Offeror/Bidder: \_\_\_\_\_

By (Signature): \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

NOTE: Bids must set forth full, accurate and complete information as required by this Solicitation (including attachments). The penalty for making false statements in bids is prescribed in 18 U.S.C. 1001.



UNITED STATES  
ENVIRONMENTAL PROTECTION AGENCY

EPA Form 1900-22 (Rev. 11-76)

General Provisions for Fixed  
Price Research and Development Contracts

<u>Clause No.</u>	<u>Title</u>	<u>Citation</u>
1	Definitions	FPR 1-7.302-1
2	Payments	FPR 1-7.302-2
3	Standards of Work	FPR 1-7.302-3
4	Inspection	FPR 1-7.302-4 (b)
5	Assignment of Claims	FPR 1-7.302-5
6	Examination of Records by Comptroller General	FPR 1-7.302-6
7	Federal, State, and Local Taxes	FPR 1-7.302-7
8	Utilization of Small Business Concerns	Altered
9	Default	FPR 1-7.302-9
10	Termination for the Convenience of the Government	FPR 1-7.302-10 (a)
11	Disputes	Altered
12	Buy American Act-Supply and Service Contracts	FPR 1-7.302-13
13	Convict Labor	FPR 1-7.302-14
14	Walsh-Healey Public Contracts Act	FPR 1-7.302-15
15	Contract Work Hours and Safety Standards Act - Overtime Compensation	FPR 1-7.302-16
16	Equal Opportunity	FPR 1-7.302-17
17	Officials Not to Benefit	FPR 1-7.302-18
18	Covenant Against Contingent Fees	FPR 1-7.302-19
19	Notice and Assistance Regarding Patent and Copyright Infringement	FPR 1-7.302-22
20	Patent Rights - Acquisition by the Government	FPR 1-7.302-23
21	Utilization of Labor Surplus Area Concerns	Altered
22	Pricing of Adjustments	FPR 1-7.302-29
23	Utilization of Minority Business Enterprises	Altered
24	Payment of Interest on Contractors' Claims	FPR 1-1.322
25	Employment of the Handicapped	FPR Temp. Reg. 38
26	Clean Air and Water	FPR 1-7.302-34
27	Printing	41 CFR 15-7.302-50

<u>Clause No.</u>	<u>Title</u>	<u>Citation</u>
28	Interest	FPR 1-7.303-26
29	Changes	FPR 1-7.304-1
30	Rights in Data	41 CFR 15-7.302-51
31	Data Requirements	41 CFR 15-7.302-52
32	Cost Accounting Standards	Deleted
33	Administration of Cost Accounting Standards	Deleted
34	Price Reduction for Defective Cost or Pricing Data	FPR 1-7.303-16
35	Subcontractor Cost or Pricing Data	FPR 1-7.303-29
36	Audit	FPR 1-7.303-28
37	Background Patent Rights	41 CFR 15-7.302-53
38	Disabled Veterans and Veterans of the Vietnam Era	FPR Temp. Reg. 39
39	Special Provisions for Educational and other Nonprofit Institutions	FPR 1-7.302-10 (b)
40	Gratuities	41 CFR 15-7.302-54
41	Authorization and Consent	Altered

REQUEST FOR QUOTATION

EXHIBIT A  
STATEMENT OF WORK

A. BACKGROUND

GCA/Technology Division is currently under contract to the Environmental Protection Agency to obtain soil samples for analysis to determine the presence of coal tar derivatives beneath the Reilly Tar site in St. Louis Park, Minnesota. The program is to include installation of a maximum of 25 wells which will be drilled during the months of September and October of 1982.

B. SCOPE OF WORK

Soil cores will be taken at a maximum of twenty-five (25) locations on or near the former Reilly Tar site in St. Louis Park, Minnesota. Each boring will be made to bedrock which is approximately 60 feet below surface level. Steel pipe and well screen shall be installed in selected well bores for future monitoring of the ground water.

This drilling program includes three (3) background holes and three (3) holes in a swamp area with the balance of the holes being on dry, level sections of the former Reilly Tar site. The swamp area will have undergone limited filling prior to the commencement of the drilling and sampling program.

The Subcontractor should have examined the drilling areas in order to acquaint himself with local conditions affecting drilling, such as the character of the geologic materials likely to be encountered in drilling. The unconsolidated material above bedrock includes silt, peat, sand, sand and gravel, and till. The Subcontractor shall obtain any and all necessary state and local permits and licenses which may be required by law to perform the work defined in these specifications.



1. Task 1--Boring and Soil Sampling

The Subcontractor shall provide the complete hydraulic rotary drilling unit, all tools, accessories, power, lighting and other equipment, experienced personnel and all other items necessary to conduct efficient drilling and coring operations. The Subcontractor shall be properly equipped to collect and handle cores as specified in the following sections. The drilling unit shall be in good condition, clean, and free from excessive lubricants and leaking hydraulic fluid, and of such capacity as to drill a hole of not less than 4-1/2 inches in diameter to the bedrock. The Subcontractor shall maintain the equipment in good operating condition for the duration of the work. The drilling equipment should be steam cleaned to prevent cross-contamination between drillings at successive drilling locations.

All drilling should occur during daylight hours Monday through Friday. No drilling should occur on Government holidays. This is to allow Government officials to observe the work. If certain phases of work on a well must be continued into the hours of darkness, sufficient lighting shall be provided by the driller so that work may be carried out in a safe and efficient manner. Cores shall be taken at approximately 5-foot intervals to bedrock in glacial drift using a hollow-stem auger without drilling mud and split-spoon and/or Shelby tube sampler, and installing temporary H-type (4 inch I.D.) casing with nonrecirculated drilling mud.

2. Task 2--Piezometer Installation

The Subcontractor shall provide and install a 2-inch screened piezometer in selected holes specified by the Prime Contractor. It is anticipated that piezometers will be installed in approximately half of the holes with the remaining holes to be backfilled. The Subcontractor shall furnish and install clean sieved sand to approximately 5 feet above the well screen and a mixture of 6 parts cement and 1 part bentonite, emplaced with Tremi line, to fill the remainder of the hole. Piezometers emplaced a short distance below the water table will be backfilled with dry bentonite and sand.



### 3. Task 3--Laboratory Testing

The Subcontractor shall perform the following physical measurements on selected corings that have not been frozen at the direction of the Prime Contractor field representative:

<u>Type of Measurement</u>	<u>No. of Samples/Tests</u>
vertical column conductivity measurements	8
horizontal column conductivity measurements	2
organic carbon	12
particle size	12
porosity	<u>8</u>
Total number of tests	42

### 4. Task 4--Well Development

The Subcontractor shall carry out the procedures required for full development of all the wells where a piezometer will be installed.

### 5. Task 5--Shipment of Samples

Samples collected from each well will be shipped by the Subcontractor to GCA/Technology Division in clean sterile containers, as indicated in Section C of Exhibit A. Document Control and Chain-of-Custody procedures shall be strictly followed as specified in Appendix B.

## C. TECHNICAL SPECIFICATIONS

The general drilling procedure will be as follows. A boring will begin with a 3-1/4 inch (or larger) hollow-stem auger and 3-inch Shelby tube sampler taking samples approximately every 5 feet until the water table is encountered. The hollow-stem auger will be removed and 4-inch I.D. surface casing set to a depth of approximately 10 feet. The H-type casing will be placed in the hole and drilling fluid introduced. The hole will be advanced



by approximately 5-foot increments by taking a 2-foot Shelby tube or split-spoon sample, drilling 3 feet with a Tri-cone bit and adding 5 feet of H-type casing. The drilling fluid will be standard commercial bentonite mixed with clean water and will not be recirculated. No cuttings, chemicals, or other foreign materials will be introduced into the hole.

Cores of the materials penetrated shall be collected at intervals of approximately 5 feet, at changes in lithology, and at depths directed by the Prime Contractor field representative who shall also determine the type of sampler to be used for each sample. The 3-inch I.D. split-spoon samplers will consist of three sections of 12, 6, and 6 inches, respectively. In order to facilitate extrusion of the cores from the liners, the Subcontractor shall provide a special tip such that the internal diameter of the tip is reduced by twice the thickness of the liner wall. In addition, the Subcontractor will supply a commercial, spring loaded retaining ring which, at the direction of the Prime Contractor field representative will be inserted between the barrel and the sampler tip.

All split-spoon samplers will be fitted with segmented brass or stainless steel liners. The liners shall consist of three segments of 12, 6, and 6 inches each to be provided by the Subcontractor. The liners will be thoroughly washed in water and rinsed in hexane in the laboratory of the Subcontractor prior to each use. The split-spoon sampler will be washed with clean water and both the sampler and the liners rinsed in hexane provided by the Subcontractor in the field immediately prior to use. After the sample is taken and the liner is removed from the sampler, the Subcontractor will store the liners in a clean, enclosed work area provided by the Subcontractor. In the clean area, the Subcontractor will extrude the sample into clean, sterile, labeled, glass jars provided by the Subcontractor. The Prime Contractor field representative will then proceed to log the core samples. After logging, the Subcontractor will store the jars in dry ice until shipment. Samples with excessive amounts of moisture may require partial dry ice freezing prior to extrusion from the liner sections. Once every 2 weeks, the Subcontractor will ship the processed cores packed with dry ice and packaged in conformance with EPA National Enforcement Investigation Center (NEIC) and Department of Transportation (DOT) requirements. Prepaid shipment shall be made in locked



coolers via a DOT-approved carrier to GCA/Technology Division, 213 Burlington Road, Bedford, Massachusetts 01730 (Attention Sample Bank). Chain-of-custody procedures described in Appendix B shall be maintained by the Subcontractor.

The Subcontractor shall keep a field log with descriptive notes made of everything encountered by the drill and of all difficulties or unusual conditions met in drilling. Within 10 days after completion of the hole, typewritten logs for each test hole shall be prepared and delivered to the Prime Contractor. The log shall include a description of each core and other materials penetrated and blows per foot required to drive the split-spoon sampler.

At selected sites one piezometer will be installed at depths specified by the Prime Contractor field representative. The Subcontractor will provide 2-inch pipe, well screen, pelletized and granular bentonite, a mixture of 6 parts cement and 1 part bentonite, and clean, sieved sand, as needed. The 2-inch pipe shall be galvanized steel, threaded and coupled, steam-cleaned, and in lengths of not more than 10.5 feet. The Subcontractor will also provide side vented caps and Teflon tape. The screen will be 3 feet long by 2-inch diameter wire wound screen, 10 slot, and galvanized or stainless steel and fitted with a 1-foot tailpipe. The Subcontractor will provide a protector pipe consisting of a 4-inch black steel pipe, 6 feet long, fitted with a lockable cap.

If the piezometer is to be placed at the bottom of the hole near the bedrock-drift contact, the hole will be flushed with clean water following removal of the final sample but prior to removal of the H-type casing. The pipe, screen, and tailpipe will be placed to the bottom of the hole, the piezometer flushed with clean water, and the annular space around the screen, filled in with clean, sieved sand as determined by the Prime Contractor field representative. Positive water pressure will be maintained in the piezometer during insertion to prevent clogging. The hole will then be pressure grouted with a mixture of 6 parts cement and 1 part bentonite grout using a Tremi pipe from the bottom of the hole up. The H casing will be removed and sufficient additional grout added to bring the grout level up to land surface. The piezometer shall extend about 2.5 feet above the land surface and shall be landscaped to minimize any objection to their appearance.

If the piezometer is to be installed at an intermediate depth, the depth of the H casing will be adjusted following removal of the final sample. The hole will be back-filled using medium to coarse clean sand, drilling fluid, grout, or pelletized bentonite as specified by the Prime Contractor field representative. The piezometer will then be installed as described in the previous paragraph.

Any test hole or piezometer that does not satisfy the requirements herein described, and which the Subcontractor cannot make acceptable, shall be declared an abandoned hole. All abandoned test holes shall be filled by the Subcontractor according to the Minnesota Department of Health standards.

After installation of the piezometers, the Subcontractor shall fully develop the wells for future monitoring by the Government.

The Subcontractor shall have an experienced foreman, with full authority to act for the driller in directing all field operations, constantly in charge of the work at the drill sites when work is underway.

The Subcontractor shall attempt to avoid damage in connection with his drilling operations. If there is not sufficient cleared area for efficient operations he shall consult with the Prime Contractor field representative. At the completion of drilling, piezometer installation, and well development, and before acceptance by the Prime Contractor field representative the site shall be restored as nearly as possible to its previous condition. All equipment shall be removed, mud pits and other holes filled in, and debris removed in accordance with the Minnesota Pollution Control Agency (MPCA). The work specified in the subcontract shall not be considered complete until the site restoration is completed to the satisfaction of the Prime Contractor field representative. The sampling program should begin within ten (10) days of Subcontract execution and concurrence of Prime Contractor field representative and be completed before 31 October 1982.

The Subcontractor shall perform the following physical measurements on selected Shelby tube corings at the direction of the Prime Contractor field representative.





- (1) Vertical column conductivity measurements--Eight (8) samples.

Conduct constant or falling head permeability test depending on grain size. Samples shall be treated with demineralized/deaired water and mounted in triaxial chambers whereby an effective fluid pressure is maintained to eliminate short circuiting between specimen and membrane interface.

- (2) Horizontal column conductivity measurements--two (2) samples.

Same as in (1) above but a section will be trimmed horizontally.

- (3) Total organic carbon--twelve (12) samples.

LECO or equivalent combustion-type method. Specify method to be used.

- (4) Particle size--twelve (12) samples.

ASTM method D-422 for sieving and hydrometer.

- (5) Porosity--eight (8) samples.

Moisture content by ASTM 2216 and specific gravity determinations to be used in calculation of this parameter.

Unless hereby specified, the Subcontractor will indicate the analytical protocol to be employed. The accepted methods should be ASTM or equivalent. The top of each piezometer shall be spirit-leveled to the nearest 0.001 foot above mean sea level. Land surface elevations will be determined to the nearest 0.1 foot above sea level. Leveling will be done in closed loops beginning at reference points of known elevation provided by the Government. Reference points are available within 1000 feet of the sites.

All the sample handling procedures shall adhere strictly to the specifications described in Appendix B: Document Control and Chain-of-Custody Procedures.

Included in the response to this RFQ the Subcontractor shall submit a Health and Safety Plan in which will be described in detail the procedures to be followed by the Subcontractor to ensure the health and safety of all persons taking part in the drilling effort. This plan will meet the requirements specified by the Prime Contractor in their overall Project Health and Safety Plan which is presented herein as Appendix A.

**D. QUALIFICATION STATEMENT**

The Subcontractor shall provide a qualification statement which will include:

- Quality Assurance/Quality Control Plan
- Health and Safety Plan
- Resumes of Assigned Personnel
- Experience
  - Procedures Required in this Procurement
  - Drilling at the Reilly Tar Site or Surrounding Area
  - Government References for Similar Recent Projects

Materials presented in the qualification statement will provide the basis for judging Subcontractor capability to perform the desired work.

The Quality Assurance/Quality Control Plan is to address the techniques employed by the Subcontractor to ensure that the work will be completed in conformity with RFQ specifications. Specific sample collection and analysis procedures should be included or referenced. Within the general framework outlined in Exhibit A, Appendix B, the Subcontractor should describe procedures relating to:

- security
- sample handling
- storage and control
- chain-of-custody
- document control

If standard operating procedures are adequate, they should be described. Otherwise, a site specific plan should be prepared.

ALTERATIONS  
TO  
GENERAL PROVISIONS  
FOR  
USE IN FIXED PRICE  
RESEARCH AND DEVELOPMENT CONTRACTS

Alteration No. 4 Dated June 1980  
EPA Form 1900-22 (Rev. 11-76)

PREVIOUS DATED OR NUMBERED ALTERATIONS  
ARE OBSOLETE

Alterations to General Provisions, EPA Form 1900-22 (Rev. 11-76)

The following alterations are made to the General Provisions of this contract:

1. The clause No. 24 entitled "Payment of Interest on Contractor's Claims" is entirely deleted.

2. Delete clause No. 8 entitled "Utilization of Small Business Concerns", and clause No. 23 entitled "Utilization of Minority Business Enterprises" and insert the following in place of clause No. 8:

8. UTILIZATION OF SMALL BUSINESS CONCERNS  
AND SMALL BUSINESS CONCERNS OWNED  
AND CONTROLLED BY SOCIALLY AND  
ECONOMICALLY DISADVANTAGED INDIVIDUALS

(a) It is the policy of the United States that small business concerns and small business concerns owned and controlled by socially and economically disadvantaged individuals shall have the maximum practicable opportunity to participate in the performance of contracts let by any Federal agency.

(b) The contractor hereby agrees to carry out this policy in the awarding of subcontracts to the fullest extent consistent with the efficient performance of this contract. The contractor further agrees to cooperate in any studies or surveys that may be conducted by the Small Business Administration or the contracting agency which may be necessary to determine the extent of the contractor's compliance with this clause.

(c) (1) As used in this contract, the term "small business concern" shall mean a small business as defined pursuant to Section 3 of the Small Business Act and in relevant regulations promulgated pursuant thereto.

(2) The term "small business concern owned and controlled by socially and economically disadvantaged individuals" shall mean a small business concern-

(i) which is at least 51 per centum owned by one or more socially and economically disadvantaged individuals; or in the case of any publicly owned business, at least 51 per centum of the stock of which is owned by one or more socially and economically disadvantaged individuals; and

(ii) whose management and daily business operations are controlled by one or more of such individuals.

The contractor shall presume that socially and economically disadvantaged individuals include Black Americans, Hispanic Americans, Native Americans, Asian-Pacific Americans, and other minorities, or any other individual found to be disadvantaged by the Small Business Administration pursuant to section 8 (a) of the Small Business Act.

(d) Contractors acting in good faith may rely on written representations by their subcontractors regarding their status as a small business concern owned and controlled by socially and economically disadvantaged individuals.

3. Delete paragraph (j) of clause No. 10 entitled "Termination for Convenience of the Government," and insert the following paragraph in lieu thereof:

(j) The Government may from time to time, under such terms and conditions as it may prescribe, make partial payments and payments on account against costs incurred by the Contractor in connection with the terminated portion of the contract whenever in the opinion of the Contracting Officer the aggregate of such payments shall be within the amount to which the Contractor will be entitled hereunder. If the total of such payments is in excess of the amount finally determined to be due under this clause, such excess shall be payable by the Contractor to the Government upon demand together with interest computed at the rate established by the Secretary of the Treasury pursuant to public Law 92-41 (50 U.S.C. App. 1215(b)(2)) for the Renegotiation Board, for the period from the date such excess payment is received by the Contractor to the date on which such excess is repaid to the Government: Provided, however, that no interest shall be charged with respect to any such excess payment attributable to a reduction in the inventory until 10 days after the date of such retention or disposition, or such later date as determined by the Contracting Officer by reason of the circumstances.

4. Delete clause No. 11 entitled "Disputes" on page 9 in its entirety and insert the following clause in lieu thereof:

#### 11. DISPUTES

(a) This contract is subject to the Contract Disputes Act of 1978 (P.L. 95-563).

(b) Except as provided in the Act, all disputes arising under or relating to this contract shall be resolved in accordance with the clause.

(c) (i) As used herein, "claim" means a written demand or assertion by one of the parties seeking, as a legal right, the payment of money, adjustment or interpretation of contract terms, or other relief, arising under or relating to this contract.

(ii) A voucher, invoice, or request for payment that is not in dispute when submitted is not a claim for the purposes of the Act. However, where such submission is subsequently not acted upon in a reasonable time, or disputed either as to liability or amount it may be converted to a claim pursuant to the Act.

(iii) A claim by the contractor shall be made in writing and submitted to the contracting officer for decision. A claim by the Government against the contractor shall be subject to a decision by the Contracting Officer.

(d) For contract claims of more than \$50,000, the contractor shall submit with the claim a certification that the claim is made in good faith; the supporting data are accurate and complete to the best of the contractor's knowledge and belief; and the amount requested accurately reflects the contract adjustment for which the contractor believes the Government is liable. The certification shall be executed by the contractor if an individual. When the contractor is not an individual, the certification shall be executed by a senior company official in charge at the contractor's plant or location involved, or by an officer or general partner of the contractor having overall responsibility for the conduct of the contractor's affairs.

(e) For contractor claims of \$50,000 or less, the Contracting Officer must render a decision within 60 days. For contractor claims in excess of \$50,000, the Contracting Officer must decide the claim within 60 days or notify the contractor of the date when the decision will be made.

(f) The Contracting Officer's decision shall be final unless the contractor appeals or files a suit as provided in the Act.

(g) The authority of the Contracting Officer under the Act does not extend to claims or disputes which by statute or regulation other agencies are expressly authorized to decide.

(h) Interest on the amount found due on a contractor claim shall be paid from the date the claim is received by the Contracting Officer until the date of payment.

(i) Except as the parties may otherwise agree, pending final resolution of a claim by the contractor arising under the contract, the contractor shall proceed diligently with the performance of the contract in accordance with the contracting officer's decision.

5. Delete clause No. 21 entitled "Utilization of Labor Surplus Area Concerns" on page 18 in its entirety and insert the following clause in lieu thereof:

#### 21. UTILIZATION OF LABOR SURPLUS AREAS CONCERNS

(The following clause is applicable if this contract exceeds \$10,000).

(a) It is the policy of the Government to award contracts to labor surplus area concerns that agree to perform substantially in labor surplus areas, where this can be done consistent with the efficient performance of the contract and at prices no higher than are obtainable elsewhere. The Contractor agrees to use his best efforts to place his subcontracts in accordance with this policy.

(b) In complying with paragraph (a) of this clause and with paragraph (b) of the clause of this contract entitled "Utilization of Small Business Concerns and Small Business Concerns Owned and Controlled

by Socially and Economically Disadvantaged Individuals," the Contractor in placing his subcontracts shall observe the following order of preference: (1) Small business concerns that are labor surplus area concerns, (2) other small business, and (3) other labor surplus area concerns.

(c) (1) The term "labor surplus area" means a geographical area identified by the Department of Labor as an area of concentrated unemployment and underemployment or an area of labor surplus.

(2) The term "labor surplus area concern" means a concern that together with its first-tier subcontractors will perform substantially in labor surplus areas.

(3) The term "perform substantially in a labor surplus area" means that the costs incurred on account of manufacturing, production, or appropriate services in labor surplus areas exceed 50 percent of the contract price.

6. Delete clause No. 32, "Cost Accounting Standards," starting on page 27, in its entirety. If any clause is substituted for clause No. 32, it will be included as a separate clause apart from these General Provisions.

7. Delete clause No. 33, "Administration of Cost Accounting Standards," starting on page 29, in its entirety. If any clause is substituted for clause No. 33, it will be included as a separate clause apart from these General Provisions.

8. Clause No. 41, "Authorization and Consent," on page 41, is deleted in its entirety and the following clause is inserted in lieu thereof:

#### 41. AUTHORIZATION AND CONSENT

The Government hereby gives its authorization and consent for all use and manufacture of any invention described in and covered by a patent of the United States in the performance of this contract or any part hereof or any amendment hereto or any subcontract hereunder (including any lower-tier subcontract).

9. The following clause shall be part of all contracts in excess of \$10,000 except (i) contracts which, including all subcontracts thereunder, are to be performed entirely outside the United States, its possessions, Puerto Rico and the Trust Territory of the Pacific Islands, and (ii) contracts for services which are personal in nature.

#### UTILIZATION OF WOMEN-OWNED BUSINESS CONCERNS (Over \$10,000)

(a) It is the policy of the United States Government that women-owned businesses shall have the maximum practicable opportunity to participate in the performance of contracts awarded by any Federal agency.

(b) The Contractor agrees to use his best efforts to carry out this policy in the award of subcontracts to the fullest extent consistent with the efficient performance of this contract. As used in this contract, a "woman-owned business" concern means a business that is at least 51% owned by a woman or women who also control and operate it. "Control" in this context means exercising the power to make policy decisions. "Operate" in this context means being actively involved in the day-to-day management. "Women" mean all women business owners.

10. The clause entitled "Organization Conflicts of Interest" will be included in all contracts for personal property and nonpersonal services (including construction) expected to be in excess of \$10,000:

#### ORGANIZATIONAL CONFLICTS OF INTEREST

(a) The Contractor warrants that, to the best of his knowledge and belief, and except as otherwise set forth in this contract, he does not have any organizational conflict of interest, as defined in paragraph (b) of this clause.

(b) The term "organizational conflict of interest" means that a relationship exists whereby an offeror or a contractor (including his chief executives, directors, proposed consultants or subcontractors) has interests which (1) may diminish his capacity to give impartial, technically sound, objective assistance and advice or may otherwise result in a biased work product or, (2) may result in an unfair competitive advantage. Such interests include, but are not limited to, present or proposed contractual arrangements with an industry to be studied, present or proposed contractual arrangements with a firm which manufactures or sells any item or substance to be studied, present or proposed manufacture or sale of any item or substance to be studied, and present or proposed manufacture or sale of any item or substance in competition with an item or substance to be studied under the proposed contract with EPA. It is not relevant that the offeror has either the reputation of being able to resist the temptation to give biased advice or the ability to resist such temptation.

(c) The Contractor agrees that, if after award he discovers an organizational conflict of interest with respect to this contract, he shall make an immediate and full disclosure in writing to the Contracting Officer which shall include a description of the action which the Contractor has taken or proposes to take to avoid, eliminate or neutralize the conflict. The Government may, however, terminate the contract for the convenience of the Government if it would be in the best interests of the Government.

(d) The Contractor agrees further that, if the award follows formally advertised solicitation and a conflict of interest was identified prior to award, he will adequately avoid, eliminate or neutralize the conflict in a manner satisfactory to the Contracting Officer.

(e) In the event that the Contractor was aware of an organizational conflict of interest anytime prior to or after the award of this contract and intentionally did not disclose the conflict to the Contracting Officer, the Government may terminate the contract for default or invoke such other remedies as may be authorized by law.





A Health and Safety Plan specific to the Reilly Tar site shall be prepared which conforms to Exhibit A, Appendix A herein. Organic vapor monitoring will be performed by the Prime Contractor. However, all safety equipment required by the Subcontractor is to be supplied by and maintained by the Subcontractor. The Subcontractor must describe how he will assure adherence to the Safety Plan at the drill site and at the Subcontractor facility during sample storage and testing.

Resumes of key personnel assigned to this project shall be furnished. Key personnel include the principal investigator responsible for technical aspects of the work, the person responsible for laboratory testing, the drill rig foreman, the person responsible for quality assurance, and the person responsible for health and safety. Resumes shall describe formal training and experience.

The Subcontractor shall provide a brief description of experience which is relevant to the required work. The Subcontractor shall describe projects on which he has applied the procedures required in this procurement including:

- drilling methods
- sampling methods
- QA/QC
- Health and Safety
- soils testing
- special sample handling
- hazardous waste site investigations

The Subcontractor shall describe drilling experience at the Reilly Tar site or surrounding area. Finally, the Subcontractor shall provide the name and telephone number of Government Project Officers who could comment on the Subcontractor's experience and performance on similar projects.



**E. SCHEDULE**

The period of performance for completion of the work set forth in the Scope of Work will be three (3) months from the effective date of the Subcontract.

**APPENDIX A**

**HEALTH AND SAFETY PLAN  
REILLY TAR SITE SAMPLING STUDY**

**August 1982**

**GCA/TECHNOLOGY DIVISION  
213 Burlington Road  
Bedford, MA 01730**



**GCA CORPORATION  
Technology Division**

## HEALTH AND SAFETY PLAN

## A. INTRODUCTION

GCA/Technology Division policy provides all employees and subcontractors with a safe and healthy work environment. The safety plan will be developed along with the detailed work plan and will include assignment of responsibility, personnel protective requirements, work practices and emergency response procedures. This site poses unknown health and safety hazards. Thus, personnel will be equipped and trained to promptly respond to unexpected hazards for which procedures do not exist. Enforcement and adherence to this Plan and past experience will help prevent serious injury or other health hazard to the field investigators and the public.

Details of the health and safety plan may require refinement during Task 1 if ambient monitoring or analysis results of sampling detects a change in level of contaminants or constituents at the site.

The Reilly Tar site is located in a residential area with limited commercial and industrial areas surrounding the neighborhoods. The actual site is a flat field with filled swamps and two ponds. The Minnesota Pollution Control Agency reported the following information on the hazards present at Reilly Tar.

- Workers having no protective equipment or clothing have experienced headaches and burns after contacting contaminated soil and smelling odors.
- Compounds detected in the soil include:
  - polyaromatic hydrocarbons
  - phenol
  - benzene
  - aromatic amines
  - toluene
  - cresol
  - polynuclear aromatics with sulfur or nitrogen.



## B. RESPONSIBILITY

The GCA Safety Officer, Arlene Levin, has responsibility for the health and safety plan and its implementation. The Safety Officer reports to the overall program manager, David Cogley, to recommend policy on all safety matters including work practices, training and corrective action. For each onsite investigation, the field team will have one of its members designated the safety coordinator. This person will have specific responsibility for maintaining a high level of safety awareness among team members, ensuring equipment availability and proper maintenance, enforcement of clothing and protective equipment use requirements, communicating with team members on pertinent safety matters, recommending to the Program Manager and Safety Officer improved safety measures, and initiating immediate corrective actions in the event of an emergency or development of an unsafe condition. The individual team members must be familiar with and conform to the safety protocols prescribed in the Safety Plan. Their experience and observations will provide valuable inputs to improving overall safety.

## C. TRAINING

Prior to any site activities, the team members will participate in training programs developed by the Safety Officer. At a minimum, the training will cover:

- first aid: recognition of conditions requiring emergency or medical care and simple steps to take until help arrives
- rescue operations
- decontamination procedures
- special chemical and physical hazards and potential health effects
- personnel protective equipment use, maintenance, fit, and limitations
- site evacuation
- hands-on training in simulated sites.

#### D. SELECTION OF PROTECTIVE CLOTHING

All field sampling team members will be provided with all the necessary protective clothing to prevent body contact with dusts, vapors, or liquids. The following selection of protective clothing is based on the nature of the hazard; i.e., the physical, chemical, and toxic properties and levels of hazardous substances:

Gloves will be selected on the basis of their resistance to a broad spectrum of chemical substances. Other factors will include fit and gripping properties. Neoprene or nitrile outer gloves will be worn. Inner gloves will be disposable PVC gloves.

Chemically resistant outer wear will consist of a long-sleeved jacket and trousers. Hooded jackets may be considered. Chemical resistance is the most important property. GCA will maintain a sufficient inventory at each site for GCA personnel only. This will be worn by field teams working near or in the swamps.

Disposable outer clothing such as the one-piece Tyvek suits will be worn by onsite personnel working in dry areas. In general, the waterproof reusable outdoor wear is preferred because of its greater durability and protectiveness.

Shoes and boots must have safety toes for all onsite work. Rubber boots will be worn at all times on the site. Handlers and samplers will require sturdy fitted boots.

Hardhats will be required headgear onsite at all times.

Eye protection will be required onsite at all times. Contact lenses will not be permitted onsite. For onsite personnel, full face respirators offer maximum eye protection and, where needed, prescription lenses will be ordered to fit inside the masks. If full face respirators are not worn onsite, chemical splash goggles, with safety glasses as needed, will be worn. Goggles will be selected to offer maximum protection, comfortable fit and antifogging.

All protective clothing must be examined prior to donning to check for any defects, tears, or noticeable contamination.



## E. RESPIRATORY PROTECTION

The Reilly Tar site poses the threat of exposure to toxic gases and vapors to all personnel on the site. Air purifying full face respirators with the combination type organic vapor cartridge will be worn. Air purifying respirators will not be used if the gases or vapors exceed their respective threshold limit values (TLV's) by a factor of 5 and should not be worn unless the hazard has warning properties, such as odor or irritation, to warn the wearer that the respirator has failed.

Users of air purifying respirators must consider the cartridge duration. Twin cartridges may have use lives as short as 15 minutes. Manufacturer's specifications rate the duration for some concentrations of gases and vapors and, using this information and the results from the preliminary site investigation, the Safety Officer will determine the frequency of recommended cartridge replacement. Table 1 lists chemical compounds already identified in soil samples, their respective TLV's and corresponding cartridge duration.

TABLE 1. CHEMICAL CONTAMINANTS DETECTED IN REILLY TAR SOIL SAMPLES, TLV's, AND CORRESPONDING ORGANIC VAPOR CARTRIDGE DURATION

Compound	TLV	Cartridge duration <sup>a</sup>
Benzene	30 mg/m <sup>3</sup> (10 ppm)	73 minutes
Toluene	375 mg/m <sup>3</sup> (100 ppm)	94 minutes

<sup>a</sup>Time to reach 1 percent breakthrough or 10 ppm. The cartridges were tested at 1000 ppm, 50 percent relative humidity, 22°C and 53.3 liters/minute (equivalent to a moderately heavy work breathing rate).

If the work environment changes, GCA will use the MSA 401 pressure demand respirator for all SCBA needs. Because the duration of SCBA air cylinders is only 30 minutes, it will be necessary to have several cylinders for each unit and access to facilities to refill them, as needed. The





30-minute time constraint and weight of the SCBA unit will decrease the work capacity of each individual wearing one. This will be considered in formulating schedules.

#### F. FIELD INVESTIGATIONS

The initial field investigation is a walk through the area to detect any observable conditions which may present a hazard to field investigators. Prior to the commencement of work, a designated field team member will monitor the area of drilling for that day with the HNU survey instrument. The HNU Photoionizer is a direct readout instrument for the quantification of atmospheric hydrocarbons. Ambient monitoring will continue throughout operations and be repeated for each day of sampling. If any of the measurements for organic and inorganic vapors and gases exceed the criteria set by the Safety Officer, the field team will evacuate immediately and call for appropriate assistance.

In preparing for the walk-through investigation, inherently safe equipment will be selected and nonstatic clothing and rubber boots will be worn to prevent any sparks. SCBA may be indicated but, at minimum, a full face air purifying respirator with an organic vapor cartridge will be worn. After the preliminary survey is complete and finds safe levels of organic and inorganic vapors and gases, further operations may commence.

Wind flags will be placed around the designated drilling area. Field teams will be warned of changing weather conditions and moved as much as possible to reduce potential exposures.

Meetings will be held every morning prior to work activities to review the hazards present at the site, any changes in the level of personal protection required, special safety requirements for assigned work activities, and emergency responses.

#### G. DECONTAMINATION

Contaminated materials must be decontaminated or isolated immediately. All materials must be assumed contaminated if they have been brought into the site. EPA-approved procedures for decontamination will be

followed in this program. Requirements for decontamination will be limited by using disposable sampling equipment. Motor vehicles entering the immediate vicinity of the site will be restricted to the absolute minimum. Vehicles which leave the site may require cleaning if EPA determines that the soil at the Reilly Tar site presents a hazard to the general public.

A wash station will be available to team members for rinsing off and decontaminating splashed clothing. This is a first step to prevent immediate damage. Protective clothing will be selected on the basis of its impermeability to solvents. However, no material is completely impermeable and breakthrough time may be as low as 1 minute. It is therefore important to remove quickly as much contaminant as possible to avoid breakthrough to inner clothing and skin. Any reservations by the safety coordinator or a team member about the removal of splashed material on clothing will be resolved by replacing the garment and either disposing of it or trying more rigorous cleansing.

Personal hygiene is the final step in decontamination. It is impractical to install shower facilities at the site, but all team members who have worked on the site should immediately return to their hotels to change clothing and shower after proceeding through the onsite decontamination of outer clothing. All clothing worn onsite should be laundered (separately from street clothing) before rewearing.

In order to minimize contamination of sample handlers, each sample bottle will be tightly capped in the field, label secured and placed in a plastic bag and sealed. The plastic bag must be transparent so that the label can be read. This bag is then placed in a clean outer bag and sealed. The outer bag must remain clean and any doubts about its cleanness are to be resolved by placing it in yet another bag.

## H. RECORDKEEPING

### 1. Personnel Exposure

A site log with a required sign-in, sign-out procedure will document the time spent by each team member on the site. This information will be supplemented by periodic air monitoring using a portable

photoionization analyzer to measure total nonmethane hydrocarbon levels in the air. An authorized copy of the site log and all air quality measurements will be kept by the Safety Officer. Chain-of-custody records will record the names of all personnel who have handled each sample.

## 2. Protective Equipment

A checklist will track all protective equipment brought into the field each day to ensure that decontamination is performed in the field and that any additional preparation, such as sanitizing face masks, is performed prior to reuse. Any equipment malfunction must be noted on the checklist and repaired before reuse. Other routine maintenance checks will be scheduled and recorded on a regular basis to ensure that protective equipment is effective at all times.

## 3. Incident Reports

Any chemical release to air, water, or soil must be reported to the Program Manager. Any personnel exposure resulting from such a release or from protective equipment failures must be reported in writing within 24 hours to the Safety Officer.

### I. EMERGENCY PROCEDURES

Before commencing any operations, all onsite personnel will be advised of potential hazards. Evacuation and rescue plans as well as emergency assistance personnel and equipment will be in place before any onsite activity commences.

Factors to be considered in formulating emergency response readiness are first aid and CPR training, first aid equipment including eye wash stations availability, water availability, communications, rapid notification of fire, police and emergency medical facilities, presence of transport vehicle(s), fire fighting equipment and extra protective equipment and SCBA units.



## APPENDIX B

## CHAIN-OF-CUSTODY/DOCUMENT CONTROL PROCEDURES

## A. GENERAL INFORMATION

The purpose of chain-of-custody procedures is to document the identity of the sample and its handling, from its first existence as a sample until information derived from it is introduced as evidence during an enforcement proceeding. Custody records trace a sample from its collection through all transfers of custody until it is transferred to an analytical laboratory. Internal laboratory records then document the custody of the sample through its final disposition. Prenumbered sample tags and custody records are issued as controlled documents to enable tracing all samples collected.

The purpose of document control is to ensure that all project documents will be accounted for when the project is complete. The Subcontractor shall identify a Document Control Officer (DCO) for its operations who will be responsible for issuing, controlling and maintaining records of controlled documents. Table 1 lists the principal types of controlled documents. At the conclusion of subcontract activity, all controlled documents with records shall be provided to the Prime Contractor for inclusion in an overall project document inventory. The DCO shall maintain a log of all serialized documents issued. If any of these controlled items are damaged, lost or voided, this must be noted in the log. In addition, the DCO may serve as Sample Custodian for core samples collected in the field.

Procedures described in Sections VIII and IX of "Enforcement Considerations for Evaluations of Uncontrolled Hazardous Waste Disposal Sites by Contractors," Environmental Protection Agency, National Enforcement Investigations Center, Denver, Colorado, April 1980, shall be followed.



TABLE 1. DOCUMENT CONTROL REQUIREMENTS

Item	Issued by	Numbering	Interim responsibility	DCO
Sample Collection Tags	GCA	Preserialized	Drilling Subcontractor	Driller's DCO
Analytical Sample Tags	GCA	Preserialized	Drilling Subcontractor	Driller's DCO
Custody Records	GCA	Preserialized	See Text	See Text
Logbooks	GCA	RT-1-619-078-	Drilling Subcontractor	Driller's DCO
Field Data Sheets	Driller	RT-1-619-078-	Drilling Subcontractor	Driller's DCO
Written Communication	Various People	Number and page of personal notebook where item is cited	Recipient	Driller's DCO
Photos or Drawings	Originator		Originator	Driller's DCO
QA Project Plan	Driller	Section, Revision, Page Number of Total Pages		GCA QA Manager

## B. CHAIN-OF-CUSTODY PROCEDURES

### 1. Sample Identification

Sample collection tags will be preprinted to ensure that the required information is provided on each tag. Each collected sample, including duplicates and field blanks, shall have a completely filled-in sample tag securely attached to it. Duplicates and field blanks shall be so identified in the "Remarks" section of the tag.

The person who physically collects the sample is the SAMPLER and signs the sample tag. He may presign the tag if he will be in hazardous conditions when sampling. Another member of the team may enter the exact time of sample collection; all team members present shall be recorded in the field logbook. The SAMPLER initiates the custody record for transfer of samples.

The Subcontractor's Sample Custodian or Prime Contractor field representative will maintain a bound Sample Log listing all samples collected, the tag numbers and the disposition of the samples to a laboratory for analysis. If appropriate, the onsite trailers will operate as a Sample Bank with new sample tags assigned to the samples selected for analysis.

### 2. Sample Transfer Procedures/Custody Records

Customized record sheets, following the NEIC format will be provided for this project. They are two-part carbonless copy forms which correlate with the sample identification tags; requested information has the same heading on both. In this project, the custody record will document transfer of samples to the Prime Contractor field representative for selection of samples to be analyzed, transfer to storage in the driller's freezer and shipment to an analytical laboratory. Internal laboratory records will then track the samples.

The custody records are used for a packaged lot of samples; more than one sample will usually be recorded on one form. More than one custody record sheet may be used for one package, if necessary. Their purpose is to document the transfer of a group of samples traveling together; when the



group of sample changes, a new custody record is initiated. The original of the custody record always travels with the samples; the initiator of the record keeps the copy. When custody of the same group of samples changes hands several times, some people will not have a copy of the custody record. This is acceptable as long as the original custody record shows that each person who had received custody has properly relinquished it.

a. Using the Custody Record Sheet--

- The Sampler fills in all requested information from the sample tags.
- The person receiving custody checks the sample tag information against the custody record. He also checks sample condition and notes anything unusual under "Remarks" on the custody form.
- The originator signs in the top left "Relinquished by" box and keeps the copy.
- The person receiving custody signs in the adjacent "Received by" box and keeps the original.
- The Date/Time will be the same for both signatures since custody must be transferred to another person.
- When custody is transferred to an analytical laboratory, blank signature spaces may be left and the customized last "Received by" signature box used. Another approach is to run a line through the unused signature boxes.
- In all cases, it must be readily seen that the same person receiving custody has relinquished it to the next custodian.

3. Custody of Shipped Samples

When a group of samples with its custody form is to be shipped, the shipper (e.g., GCA) accompanies the package to the carrier (e.g., Federal Express) so that, if requested, the number and identification of the samples in the container can be verified. The commercial carrier is not required to



verify this, nor to sign the custody record. Receipts of Bill of Lading should be retained as part of the permanent documentation.

The package is then closed with a strong, keyed padlock or strapping tape and custody seals so that the carrier is transporting a secure container. Custody seals are narrow strips of adhesive paper used to demonstrate that no tampering has occurred. They are intended for use on a sample transport container which is not secured by a padlock. They are not intended for use on individual sample containers.

The person receiving custody of shipped samples must document the condition of the locked, or strapped and sealed shipping box on arrival. It must be checked that neither the tape or the custody seals has been cut or otherwise tampered with. If the paper seal has been damaged in shipping but it is clear that the shipping box has not been opened, further handling of the samples may proceed. If tampering is suspected, the designated Sample Custodian shall notify the GCA QA Manager.

#### 4. Laboratory Custody Procedures

The onsite Sample Bank, the drilling subcontractor's laboratory area, and each subcontracting analytical laboratory are considered to be working laboratories. Each laboratory shall have a designated Sample Custodian who implements a system to maintain control of samples. It is assumed that the laboratory is not open to the general public but has access restricted to employees known to each other. Each handling of the sample to renumber, subdivide, preserve, etc. does not have to be documented in this situation. Each subcontractor shall describe his laboratory custody procedures in his QA plan; GCA will evaluate the internal custody procedures in use by each laboratory to ensure they are adequate for this project.

#### 5. Questions/Problems Concerning Custody Records

If a discrepancy between sample tag numbers and custody record listings is found, the person receiving custody should document this and properly store the samples. The samples should not be analyzed until the



problem is resolved by contacting the GCA QA Manager or other designated responsible authority.

The responsible person receiving custody should attempt to resolve the problem by checking all available information (other markings on sample container, type of sample, etc.). He should then document the situation on the custody record and in his project logbook and notify the GCA QA Manager by the fastest available means, following by written notification.

Changes may be written in the "Remarks" section of the Custody record and should be initiated and dated. A copy of this record should accompany the written notification to the QA Manager.

### C. DOCUMENT CONTROL PROCEDURES

The driller DCO will issue, control and maintain records of controlled documents. Table 1 lists these documents; it should be noted that each key technical person working on the project is required to maintain an individual project logbook. In the case of drillers, one field logbook for each drilling team is sufficient.

#### 1. Project Numbering System

a. Project Code--The project code for the Reilly Tar study is RT 1-619-078; this number must appear on sample identification tags, custody records, logbooks, field data sheets, drillers logs, core logs, project memos and reports, document control logs, corrective action forms and logs, QA Plans, and all other project records.

b. Preserialized Documents--Sample collection and analytical tags, and custody records, have preprinted serial numbers on them. It is not necessary that a tag number match a custody record number; it is necessary that the subcontractor DCO maintain records which account for all serially numbered items received from GCA. If tags or custody records are damaged, lost or destroyed before use for their intended purpose, the serial number of the item and its disposition must be recorded.



c. Other Documents--Other documents use the following numbering scheme to enable unique identification of each item:

<u>Project Code</u>	<u>Subcontractor Code</u>	<u>Document Code</u>	<u>Serial Number</u>
RT 1-619-078	-01-	-A-	-00001

Table 2 presents a suggested document code. The subcontractor's DCO will finalize the system to be used for their documents.

At the conclusion of project activity, the driller DCO should account for all project documents and number them as suggested in this section. Then a contents listing of the documents should be prepared. The DCO should keep a copy of the contents listing and place one copy in the shipment box containing the documents. The complete project document inventory is to be shipped to GCA.



TABLE 2. SUGGESTED DOCUMENT CODES

Document	Code letter
Project Work Plans	A
Project Logbooks	B
Data Sheets	D1, D2, etc.
Laboratory Notebooks	G
Core Logs	L1, L2, etc.
Internal Memos	M
External Written Communications	N
Photos, Maps, Drawings	P
QA Plan	Q
Reports	R
Final Report	FR
Miscellaneous	X

**EXHIBIT B**  
**REPORTS OF WORK AND DELIVERABLES**

**A. WEEKLY PROGRESS REPORTS**

Each Monday, the Subcontractor shall deliver to the Prime Contractor field representative a summary report in the form of a reproducible master and one (1) copy describing activities of the previous week and cumulative activities to date. This report will describe:

- number, locations and depth of wells drilled
- copies of driller's logs
- number, location and types of tests performed
- problems encountered
- deviations from plan
- plans for the next week
- samples in storage
- samples shipped
- problems encountered
- plans for problem resolution.

**B. FINAL REPORT**

A Draft Final Report in two (2) copies shall be submitted within two (2) weeks after the completion of drilling activities. This report shall include detailed descriptions of equipment, techniques, and work accomplished. A Final Report in one (1) reproducible master and two (2) copies incorporating response to the Prime Contractor to review comments shall be submitted within two (2) weeks after receipt of comments.



C. SOIL SAMPLES

Once every 2 weeks, soil samples in storage will be packaged and shipped in conformance with instructions contained in Exhibit A.



EXHIBIT C  
REFERENCE CASE A

The bidder is required to provide an itemized cost for the drilling of ten (10) borings, installation of five (5) piezometers, performance of laboratory tests, shipment of samples, and reporting as described below and in conformance with RFQ specifications. A total program cost together with itemized costs is desired. The specifications are as follows:

1. Drill ten (10) borings. Assume ten (10) feet of augering, balance rollerbit. Assume bedrock at 60 feet below land surface (BLS). Three (3) borings will be in clean background locations, three (3) in the swamp just north of Highway 7 near the Reilly Tar site, and four (4) at the Reilly Tar site on solid ground. Take soil samples every 5 feet (80 percent split-spoon, 20 percent Shelby).
2. Install piezometers in five (5) of the borings. Well screens are to be centered at the following depths: two (2) at 60 feet BLS, two (2) at 30 feet BLS, and one (1) at 20 feet BLS. All piezometers to be fully developed.
3. Perform all laboratory soils tests noted in the RFQ. (Samples will be selected by the GCA field representative.)
4. Ship sixty (60) soil samples to the chemical analysis laboratory in Bedford, Massachusetts. Maintain chain-of-custody. Ship by approved air carrier in locked coolers capable of maintaining samples in the frozen state until they are received by the analytical laboratory.
5. Reporting.

Costs are to be entered on the forms provided. Though a detailed scope has been provided in this reference case, it must be realized that the drilling program which will be performed will depend on field conditions.

When determining unit costs, the Offeror should note the following:

- a. All unit cost prices should include the associated or required materials.
- b. Other items of costs not specified in the schedule but required for the completion of the work should be included in the requested costing.

## REFERENCE CASE A

## BID PRICE SHEET

Item	No.	Cost	Additional unit cost
Mobilization/Demobilization	1 <sup>a</sup>	\$	
Health and Safety Equipment	1 <sup>a</sup>	\$	
Standby Time	5 hrs	\$	\$ /hr
Borings in clean background locations	3	\$	\$ /boring
Borings in swamp	3	\$	\$ /boring
Borings at Reilly Tar site on solid ground	4	\$	\$ /boring
Piezometers screened at 60 feet	2	\$	\$ /piezometer
Piezometers screened at 30 feet	2	\$	\$ /piezometer
Piezometers screened at 20 feet	1	\$	\$ /piezometer
Laboratory soils tests (Total Number 42)		\$	
Storage and shipment of soil samples	60	\$	\$ /sample
Reporting		\$	
Total		\$	

<sup>a</sup>One time charge for this case.



## REFERENCE CASE A

## ANCILLARY INFORMATION

Item <sup>a</sup>		Unit cost
Hollow-stem auger (4 in. I.D.) drilling	\$	/ft
Rollerbit (suitable for H casing) drilling	\$	/ft
Surveying	\$	/well
Depth differential for piezometer installation	\$	/ft
Split-spoon (2 ft x 3 in., liners, special tip) sample	\$	/sample
Shelby (3 in.) sample	\$	/sample
Vertical column conductivity measurement	\$	/sample
Horizontal column conductivity measurement	\$	/sample
Total organic carbon analysis	\$	/sample
Particle size analysis	\$	/sample
Porosity determination	\$	/sample

<sup>a</sup>Unit prices provided for ancillary costs below will be utilized in adjustments to subcontract costs occasioned by actual drilling program work (e.g., if the depth of boring is 80 feet rather than 60 feet, the subcontract price will be adjusted for the additional 20 feet at the unit price specified below).





EXHIBIT D  
REFERENCE CASE B

The bidder subcontractor is required to provide an itemized cost for the drilling of twenty-five (25) borings, installation of twelve (12) piezometers, performance of laboratory tests, shipment of samples, and reporting as described below and in conformance with RFQ specifications. A total program cost together with itemized costs is desired. The specifications are as follows:

1. Drill twenty-five (25) borings. Assume ten (10) feet of augering, balance rollerbit. Assume bedrock at 60 feet below land surface (BLS). Three (3) borings will be in clean background locations, three (3) in the swamp just north of Highway 7 near the Reilly Tar site, and fourteen (14) at the Reilly Tar site on solid ground. Take soil samples every 5 feet (80 percent split-spoon, 20 percent Shelby).
2. Install piezometers in twelve (12) of the borings. Well screens are to be centered at the following depths: four (4) at 60 feet BLS, four (4) at 30 feet BLS, and four (4) at 20 feet BLS. All piezometers are to be fully developed.
3. Perform all laboratory soils tests noted in the RFQ. (Samples will be selected by the GCA field representative.)
4. Ship one hundred fifty (150) soil samples to the chemical analysis laboratory in Bedford, Massachusetts. Maintain chain-of-custody. Ship by approved air carrier in locked coolers capable of maintaining samples in the frozen state until they are received by the analytical laboratory.
5. Reporting.

Costs are to be entered on the forms provided. Though a detailed scope has been provided in this reference case, it must be realized that the drilled program which will be performed will depend on field conditions.

When determining unit costs, the Offeror should note the following:

- a. All unit cost prices should include the associated or required materials.
- b. Other items of costs not specified in the schedule but required for the completion of the work should be included in the requested costing.



## REFERENCE CASE B

## BID PRICE SHEET

Item	No.	Cost	Additional unit cost
Mobilization/Demobilization	1 <sup>a</sup>	\$	
Health and Safety Equipment	1 <sup>a</sup>	\$	
Standby Time	10 hrs	\$	\$ /hr
Borings in clean background locations	3	\$	\$ /boring
Borings in swamp	3	\$	\$ /boring
Borings at Reilly Tar site on solid ground	19	\$	\$ /boring
Piezometers screened at 60 feet	4	\$	\$ /piezometer
Piezometers screened at 30 feet	4	\$	\$ /piezometer
Piezometers screened at 20 feet	4	\$	\$ /piezometer
Laboratory soils tests (Total Number 42)		\$	
Storage and shipment of soil samples	150	\$	\$ /sample
Reporting		\$	
Total		\$	

<sup>a</sup>One time charge for this case.



## REFERENCE CASE B

## ANCILLARY INFORMATION

Item <sup>a</sup>		Unit cost
Hollow-stem auger (4 in. I.D.) drilling	\$	/ft
Rollerbit (suitable for H casing) drilling	\$	/ft
Surveying	\$	/well
Depth differential for piezometer installation	\$	/ft
Split-spoon (2 ft x 3 in., liners, special tip) sample	\$	/sample
Shelby (3 in.) sample	\$	/sample
Vertical column conductivity measurement	\$	/sample
Horizontal column conductivity measurement	\$	/sample
Total organic carbon analysis	\$	/sample
Particle size analysis	\$	/sample
Porosity determination	\$	/sample

<sup>a</sup>Unit prices provided for ancillary costs below will be utilized in adjustments to subcontract costs occasioned by actual drilling program work (e.g., if the depth of boring is 80 feet rather than 60 feet, the subcontract price will be adjusted for the additional 20 feet at the unit price specified herein).



August 1982

EXHIBIT E

TECHNICAL DIRECTION

Performance of the work under this subcontract shall be subject to the technical direction of a GCA/Technology Division Program Manager. The term "Technical Direction" is defined to include, without limitation, the following:

- (a) Directions to the Subcontractor which redirect the subcontract effort, shift work emphasis between work areas or tasks, require pursuit of certain lines of inquiry, fill in details or otherwise serve to accomplish subcontractual statement of work.
- (b) Provisions of information to the Subcontractor which assist in the interpretation of drawings, specifications or technical portions of the work description.
- (c) Review and, where required by the subcontract, approval of technical reports, drawings, specifications, and technical information be delivered by the Subcontractor to GCA.

Technical direction must be within the general scope of work stated in this subcontract. The Program Manager does not have the authority to and may not issue any technical direction which (i) constitutes an assignment of additional work outside the general scope of the subcontract; (ii) constitutes a change as defined in the subcontract clause entitled "Changes"; (iii) in any manner causes an increase or decrease in the total estimated subcontract cost, the fixed fee or the time required for subcontract performance; or (iv) changes any of the expressed terms, conditions, or specifications of the subcontract.

GCA/TECHNOLOGY DIVISION  
A DIVISION OF GCA CORPORATION  
Bedford, Massachusetts 01730

August 1982

GENERAL PROVISIONS

- A. EPA General Provisions Form 1900-22 (Rev. 6-79) and other Additional General Provisions as required, are hereby incorporated by reference.
- B. Reference to the "Contractor" appearing in these General Provisions shall be deemed to refer to the Subcontractor. Reference to the "Contract" shall be deemed to apply to the Subcontract, while reference to the "Government" and the "Contracting Officer" shall be deemed to refer to the Prime Contractor (GCA) and the GCA Subcontract Administrator, respectively, except that:
  - 1. GCA shall not be deemed to have the right to inspect or audit the books or records of the Subcontractor under the "Examination of Records" and similar clauses, and
  - 2. The rights conferred on the Government under the 'Patent Rights' and 'Rights in Data' clause shall run to GCA only to the extent necessary to permit GCA to comply with the terms of its prime contract.